B.C.A. PROGRAMME
COURSE OUTCOMES

Semester I   Problem Solving and Programming Concepts   Course Code: CAC -101

After completing the course students will be able to

CO 1: Illustrate the flowchart and design an algorithm for a given problem.

CO 2: Develop conditional and interactive statements for writing programs in C

CO 3: Exercise functions, pointers, arrays, string and structures to solve a problem

CO 4: Exercise file concept to show input and output of files in C.

CO 5: To enable student to develop small application using c programming

Semester I   Computer Organisation and Architectures   Course Code: CAC-102

After completing the course the student will be able to:

CO 1: Understand the Generation of Computers.

CO 2: Understand the concepts of Computer Architecture and its various Organizations.

CO 3: Understand the Processor Structure and its Functioning in detail.

CO4: Understand the Memory Hierarchy, interconnection and working of Cache, Internal and External memory system.

CO 5: Understand the concepts and working of I/O module, Bus technology and handling interrupts.

Semester I   Basic Mathematics   Course Code: CAC -103

After completing the course the student will be able to:

CO 1:   Use Logarithm and Antilogarithm and perform operations on logarithm.

CO 2: Understand the concept of mensuration with respect to 2D and 3D figures

CO 3: Implement progression in day to day life.

CO 4: To solve problems on ratios and proportions in day to day life.

CO 5: Understand the properties of numbers with focus on operation to be performed.

CO 6: Understand fundamental concepts of matrices and determinants and its applications.

Semester I   Problem Solving and Programming Laboratory Course Code: CAC-104

After completing the course the student will be able to:

CO 1:   Analyse the problem, Design a flowchart and use logic to solve the problem.

CO 2: Understand the concepts of loops and conditions for avoiding repetition of the same code.

CO 3: Understand the concept of function to write an efficient code.

CO 4: Implementation of programs using Arrays, Pointers and Strings for better memory management.

CO 5: Develop a small application using C-Programming Language.

Semester I   IT Tools Laboratory   Skill Enhancement Course (SEC)
Course Code: CAS -101

After completing the course students will be able to:

CO 1: Describe the basic concepts of computer system

CO 2: Apply basic office tools such as Word Processors, PowerPoint and Spreadsheet.

CO 3: Enable students to use internet, cloud technology and search engines

CO 4: Enable students to install various hardwares, softwares and servers.

CO 5: Apply different tools in information technology in business processes.

Semester I   Environmental Studies   Course Code: ESA 101

SECTION – A Natural Endowments: Status, Issues, concerns and responses

After completing the course, the student will be able to

CO 1: Understand the definition, scope and importance of environmental studies

CO 2: Understand the various natural resources available to mankind and the problems associated with these resources.

CO 3: Analyse the role of an individual in conservation of natural resources as well as understand the eequitable use of resources for sustainable lifestyles.

CO 4: Understand the concept of an ecosystem, its structure and functions as well as food chains, food webs and ecological pyramids seen in the environment. Identify the various ecosystem seen around.

CO 5: Understand the importance of biodiversity and the various threats faced and differentiate between the different conservation methods implemented towards conservation of biodiversity

Semester I   Business Accounting   Generic Elective   Course Code: CAG-101

After completing the course the student will be able to:

CO 1: Have knowledge of various accounting concepts.

CO 2: Maintain the financial statements of a business entity and study final accounts.

CO 3: Record the basic journal entries and how to calculate depreciation by applying various methods.

CO 4: Develop the ability to use the fundamental accounting equation to analyze the effect

of business transactions on an organization's accounting records and financial statements.

Semester II   Data Structures   **Course Code: CAC -105**

After completing the course students will be able to

CO 1: Understand the concept of Pointers, Dynamic Memory Allocation , Algorithm and Big Notation.

CO 2: Understand Basic data structures such as arrays, linked list, stack & queries.

CO 3: Apply sorting techniques for solving problems

CO 4: Apply searching techniques for solving problems

CO 5: To solve problem involving graphs, trees and heaps.

Semester II   Applied Mathematics   **Course Code: CAC -107**

After completing the course the student will be able to:

CO 1: Understand the basic fundamental of digital electronics.

CO 2: Represent real world concepts using the basic concept of sets.

CO 3: Understand the various laws associated to the Boolean operation.

CO 4: Implement Cartesian product in real life.

CO 5: Analyse problem and implement the concept of permutation and combination.

Semester II   Data Structures Laboratory   **Course Code: CAC -108**

After completing the course the student will be able to:

CO 1: Understand and implement the concept of Dynamic memory allocation using Pointers.

CO 2: Implement data structures such as Stack, Queues, Linklist, Trees and Graphs.

CO 3: Learn and Apply Searching and Sorting Techniques to solve problems.

CO4: Learn to organize contents properly on interface.

CO 5: Analyse and integrate Data structure techniques to develop a small application, using

C-Programming Language.

Semester II   Environmental Studies   **Course Code: ESA 101**

SECTION – B Socio-economic dimensions of Environment

After completing the course, the student will be able to

CO 1: Analyse the various types of pollution in the environment, the causative factors and the measures that could be taken, to curb pollution.

CO 2: Assess the types of wastes, their causes and effects as well as articulate the role of an individual in prevention of pollution

CO 3: Understand the various social issues and their effect on Environment as well as the various preventive acts implemented by the government.

CO 4: Analyse the role of population and tourism and its impact on the environment.

Semester II   Cost Accounting Generic Elective   Course Code: CAG -102

After completing the course the students will be able to:

CO 1: Identify cost-volume-profit relationships and solve CVP functions.

CO 2: Define and apply management/cost accounting concepts.

CO 3: Identify and analyze variances, flexible budgets and management control system.

 CO 4: Identify inventory costing and capacity, determine cost behavior and analyze decision making.

Semester III   Object Oriented Concepts   Course Code: BCA301

After completing the course the student will be able to:

CO 1:   Revise the concepts of Procedure Oriented Programming and understand its problems.

CO 2: Understand the difference between Procedural Programming Concepts and Object-Oriented Programming Concepts.

CO 3: Understand the concepts of Classes, Objects, Constructors, Inheritance and Polymorphism.

CO 4: Understand the concepts and methods of Exception Handling.

CO 5: Illustrate the process of data file manipulation.

Semester III   Database Management Systems   Course Code: BCA302

After completing the course the student will be able to:

CO 1:   Demonstrate the basic elements of a relational database management system.

CO 2: Identify the data models for relevant problems.

CO 3: Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the respect data.
CO 4: Apply normalization for the development of application software's.

CO 5: Become familiar with the basic issues of transaction processing and concurrency control.

Semester III   Management Accounting   Course Code: BCA303

After completing the course the student will be able to:

CO 1: Analyze and evaluate information for cost ascertainment, planning, control and decision making.

CO 2: Interpret cost accounting statements and study simple case studies.

CO 3: Provide knowledge about budget control, keeping in mind the scope of the concept.

 CO 4: Develop the know-how and concept of marginal costing with practical problems

Semester III   Economics   **Course Code: BCA304**

After completing the course the student will be able to:

CO 1: Understand the meaning of economics and market structures and also the different degrees of competition in a market, affecting pricing and output.

CO 2: Understand the concept of utility and apply it in the real life and to Represent demand and supply, in graphical form and understand the implications of variations and changes in these curves.

CO 3: Understand the concepts, measurements, types of elasticity of demand, supply and apply it in the real world situation.

CO 4: Understand the firm's production behavior in short run and long run.

CO 5: Understand the pricing factors like rent, wages and interest along with their theories.

Semester III   Object Oriented Programming Laboratory   Course Code: BCA305

After completing the course the student will be able to:

CO 1:   Understand a Java Program, what its output looks like and learn the basic syntax of a Java language.

CO 2: Implement the concept of Classes and Objects using Java language.

CO 3: Implement the concepts of Constructors, Inheritance and Polymorphism using Java.

CO 4: Implement the concepts and methods of Exception Handling using Java.

CO 5: Implement the process of data file manipulation using Java.

Semester III   Database Management Systems Laboratory   Course Code: BCA306

After completing the course, the student will be able to:

CO 1:   Learn to model the real-world concepts using various modelling techniques.

CO 2: Learn to convert generated models into relational structures for building applications.

CO 3: Learn to perform various data-centric operations over the relations.

CO4: Appreciate the use of functions, triggers and procedures.

CO5: Learn to connect the database to server using server scripting languages such as PHP.

Semester III   Communication and Presentation Skills   Course Code: BCA307

After completing the course the student will be able to:

CO1: To understand the basic concepts of communication, complete communication process and effective communication.

CO2: To understand the different types and methods of communication.

CO3. To prepare for an interview, will know about the different types of Interviews.

CO4. Apply the skills which they learnt for preparation of presentation.

CO5. Use language, Gestures and Body language to put forth their ideas.

Semester IV   Software Engineering   Course Code: BCA401

After completing the course the student will be able to:

CO 1: Understand the Basics of Software Development Life cycle.

CO 2: Understand the concept of UML diagrams and apply them for Project purpose.

CO 3: Analyse the SDLC suitable for various software projects.

CO4: Create Feasibility Study and Software Requirement Specification (SRS) for project purpose.

CO 5: Analyze and design Gantt chart for Project Scheduling.

Semester IV   Computer Networks   Course Code: BCA402

After completing the course the student will be able to:

CO 1: Understand the Basic network structure of ARPANET

CO 2: Understand the structures of OSI model and TCP/IP model.

CO 3: Understand the functionalities of Physical Layer, Data Link layer, Network Layer, Transport Layer and Application Layer of TCP/IP model in detail.

CO4: Analyse the LAN creation by distribution of IP addresses for a given Network.

CO 5: Understand the Various Protocols used at each TCP/IP layer.

Semester IV   Management Functions   Course Code: BCA403

After completing the course the students will be able to:

CO 1: Gain understanding of the functions and responsibilities of managers.

CO 2: Apply tools and techniques to be used in the performance of the managerial job.

CO 3: Analyze and understand the environment of the organization.

CO 4: Develop cognizance of the importance of management principles.

CO 5: Understand the concepts related to Business and demonstrate the roles, skills and functions of management.

Semester IV Graphical Interface Design Laboratory   Course Code: BCA405

After completing the course the student will be able to:

CO 1: Design web-based application using the interfaces.

CO 2: Create a simple web-based database application using HTML, JavaScript, CSS, JSP and MySQL.

CO 3: Understand different components of Graphical User Interface.

CO 4: Create data input forms.

CO 5: Connect to database to store data.

Semester IV   Technical Writing Skills   Course Code: BCA407

After completing the course the student will be able to:

CO 1: Understand the principles of correspondence and the jargon for business letters.

CO 2: Write testimonials, references, memos and letters. (Formal and informal).

CO 3: Draft media articles and advertisements.

CO 4: Collect data from meetings, briefings and prepare report.

CO 5: Understand different types of reports and have effective report writing skills

Semester V   Software Testing   Course Code: BCA501

After completing the course the student will be able to:

CO 1:   Apply different testing approaches to all stages of software development

CO 2:   Prepare test plans, strategy, specifications, procedures and controls to provide a structured approach to testing.

CO 3: Apply the techniques and methods covered to testing packages.

CO 4: Manage, plan and prepare rigorous, formal, visible and repeatable tests that will fully exercise software, in the development of quality systems.

CO 5:   Describe the different types of testing tools available and identify the appropriate types of tools for their needs

Semester V   Web Technology   Course Code: BCA502

After completing the course student will be able to

CO1: Understand, analyze and build dynamic and interactive web sites

CO2: Install and manage server software and server-side tools.

CO3: Understand current and evolving Web languages for integrating media and user interaction in both front end and back end elements of a Web site.

CO4: Analysis and reporting of web data using web analytics

CO5: Applying different testing and debugging techniques and analyzing the web site Effectiveness.

Semester V   Android Programming   Course Code: BCA_CS_E01

After completing the course, the student will be able to:

CO 1: Have knowledge about Android as an OS, its history, latest version and android os stack

CO2: Efficiently use the Software tools required to design and program an android app.

CO 3: Design efficient user interface, compatible with all screen sizes for the android app.

CO 4: Write functional code using all the UI elements, perform network requests, use GPS, Bluetooth and other sensors in the app.

CO 5: Use inbuilt features of Android to make apps more user friendly and feature rich, like Internal Database, Background services etc.

CO 6: Generate an android app ready to be published on the android play store.

Semester V   Advertising   Course Code: BCA_NCS_E01

After completing the course, the students will be able to:

CO 1: Understand how Advertising has evolved over the time.

CO 2: Get aware of various types of advertising used currently.

CO 3: Analyze and modify the techniques used in advertising from product launch onwards.

CO 4: Understand the various market research methods.

CO 5: How advertising firms do media planning and distribution.

CO 6: Get aware of legal aspects used in Advertising and laws affecting Advertising.

Semester V   Human Computer Interaction   Course Code: BCA_CS_E06

After completing the course the student will be able to:

CO 1: Understand the difference between GUI Interfaces and Web Interfaces.

CO 2: Analyse User Screen Menus and Icons.

CO 3: Design better user interface without cluttering of user's graphical items.

CO4: Learn to organize contents properly on interface.

CO 5: Understand the purpose and usage of various Input and Output devices.

Semester V Non Computer Science Elective – Business Ethics

Course Code: BCA_NCS_E02

After completing the course, the students will be able to:

CO1: Understand the ethical theories & its value

CO2: Analyze how business ethics works in work environment

CO3: Awareness of Organizational ethics & challenges faced

CO4: Understand what corporate social responsibility is ?

CO5: Analyze the relation between ethics and technology

CO6: Understand how global business manage ethical issues

Semester V   IT Project Management   **Course Code: BCA_CS_E08**

After completing the course, the student will be able to:

CO 1:   Appreciate various concepts of a project and issues in managing a project.

CO 2: Appreciate the importance of various stages involved in starting of a project.

CO 3: Understand various tasks involved in project planning.

CO 4: Understand the various aspects of executing information technology project.

CO 5: Appreciate the various aspects of project controlling and monitoring.

CO 6: Appreciate the tasks involved in final stages of project management.

Semester VI   Management Information Systems   **Course Code: BCA601**

After completing the course the student will be able to:

CO1: Understand the role of information technology and information systems in business.

CO2: Analyze how information technology impact perform.

CO3: Apply various support system that can be used for making business decisions.

CO4: Understand different management functions and construct a solution to business problems.
CO5: To combine analytical thinking, creativity and business problem solving as applied to ongoing MIS Challenges, future trends and relevant case.

Semester VI   Multimedia Technology   **Course Code: BCA602**

After completing the course the student will be able to:

CO 1:   To identify a range of concepts, techniques and tools for creating and editing the interactive multimedia applications
CO 2: To understand Basic compression techniques

CO 3: To understand video and audio Data compression techniques

Semester VI   Multimedia Laboratory   **Course Code: BCA605**

After completing the course, the student will be able to:

CO 1: Have knowledge about different Multimedia types, components, formats.

CO2: Efficiently use the Graphic editing tool required to edit and perform various operations on graphic resources.

CO 3: Efficiently use the Audio editing tool required to edit and perform various operations on audio resources.

CO 4: Efficiently use the Video editing tool required to edit and perform various operations on video resources.

Semester VI   Content Management Systems   Course Code: BCA_CS_E02

After completing the course, the student will be able to:

CO 1: Have knowledge about what is a CMS, various CMS platforms available, advantages and disadvantages of using a CMS

CO 2: Setup a CMS on local computer/server/online account, create admin account, create other users, assign roles, work with the database if needed.

CO 3: Use efficiently platforms like WordPress, Wix, Joomla, Moodle,

CO 3: Design websites using the CMS, add own CSS to style the website.

CO 4: Publish the website on live server, maintain and update the website.

Semester VI   Non Computer Science Elective   Services Marketing

Course Code: BCA_NCS_E12

After completing the course, the students will be able to:

CO1: Understand the significance of service marketing.

CO2: How to manage service encounters and managing relationship by building customer loyalty.
CO3: Understand to create various service-based strategies for market positioning

CO4: Analyze financial and economic affects of services

CO5: Get aware on how select service based industries works

Semester VI   Human Resource Management   Course Code: BCA_NCS_E14

After completing the course a student will be able to:

CO 1: Have an insight into the contribution of HRM in the organization. The student will be able to plan the human resource requirement of an organization.
CO 2: Understand the recruitment policy

CO 3: Discuss the internal and the external factors influencing the recruitment decisions, importance of the each part of the recruitment process and possible danger spots, skills and knowledge required to conduct fair selection of the candidate in an organization.
CO 4: Have a greater understanding on how a good or bad experience interview might impact an applicant.

CO 5: Understand the contribution of job analysis to an organizational effectiveness and complete the job analysis in a given situation, and understand the job enlargement and enrichment in the organizations.

CO 6: Describe the benefits of training the employees and understand the various methods of the training used for workers and managers.

CO 7: Understand why it is important to effectively appraise performance of employees,

CO 8: Describe performance appraisal methods and pros and cons of each
Discuss the major problems inhibiting effective performance appraisals.

CO 9: Recognize the importance of business presentations and interpersonal skills and describe how good communication with others can influence our working relationships, understand the importance of time management for individuals and organization

CO 10: Understand the need of planning a career in today's competitive world and the various opportunities available.

CO 11: Recognize the importance of counselling and various types of counselling.